or connective tissues comprising the steps of

isolating mammalian cells into a cell culture in vitro, and

detecting the presence of a positive embryonic marker of an expressed bone morphogenic or cartilage derived morphogenic protein, a homolog thereof or a marker co-expressed and/or co-detectable with this marker.

32. The method according to claim 31, wherein the presence of the positive marker is further characterised by the absence of a negative marker, said negative marker preferably being FGFR3 or a marker or factor co-expressed or co-detectable with this negative marker.

33. The method according to claim 31 wherein the positive marker is an actively expressing gene, a protein or an mRNA expressed by a gene in the precursor cells or a part thereof, detectable at the DNA, mRNA, cDNA or the protein level and/or detectable via the activity of a promoter directing/regulating this gene expression, operably linked to a heterologous reporter gene.

34. The method according to claim 31 wherein the positive marker identifies precursor cells of a joint interzone in mammals.

35. The method according to claim 31 wherein the expressed bone morphogenic or cartilage derived morphogenic protein is the cartilage-derived morphogenic protein CDMP-1 or a transforming growth factor b having at least 80% homology with CDMP-1 as a marker of skeletal precursor cells from any part of the body or a marker or factor co-expressed or co-detectable with any or all of these positive markers.

36. A method according to claim 31, wherein the step of detecting the presence of the positive marker includes applying a binding agent for the positive marker to an isolated source of cell having the precursor cells, the marker positively identifying the cell and

separating the cells which are bound to the binding agent.

37. A method for sorting and/or enriching precursor cells in cell culture in vitro comprising selecting cells with reagents, ligands, and/or monoclonal or polyclonal antibodies recognising cell surface markers wherein the cell surface marker is co-expressed or co-detectable with the marker of claim 31, said precursor cells optionally being skeletal precursor cells.

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38. A method for producing or repairing connective tissue into a mammal comprising administering skeletal precursor cells marked according to claim 31, said cells optionally being cultured at a cell density of at least 10^5 cells/ml and/or having a factor administered that stimulates differentiation of the skeletal precursor cells into the type of connective tissue to be produced or repaired.

39. A method of producing matrix comprising cultivating precursor cells marked according to claim 31 as matrix producing cells, said matrix optionally further comprising a bioresorbable polylmer or carrier.

40. A method for treating subglottic stenosis, tracheomalacia, chondromalacia patellae, osteoarthritis and traumatic lesions in a mammal said method comprising supplying precursor cells being marked according to claim 31.

41. A method for joint surface defect repair in a mammal comprising the co-implantation of chondrocytes and skeletal precursor cells marked according to claim 31.

42. A method for enhancing the implantation of a prosthetic device in connective tissue comprising the step of implanting a prosthetic device having skeletal precursor cells according to claim 31 adhered thereto under conditions suitable for differentiating the cells into the connective tissue desired. method of treatment.

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43. A culture of isolated and expanded viable, differentiated, pluripotent precursor cells that have entered a post-natal skeletal differentiation pathway leading to skeletal or connective tissue, wherein the cells express a positive embryonic marker which is an expressed bone morphogenic or cartilage derived morphogenic protein, a homolog thereof or a marker co-expressed and/or co-detectable with this marker.

44. A therapeutic composition comprising the cells of claim 43.

45. An implant comprising the cells of claim 43, said implant being optionally suitable for connective tissue implantation.

46. A method of treating a patient in need thereof comprising administration of the therapeutic composition comprising the cells of claim 43.

47. A diagnostic for positively identifying in vitro a positive marker of viable, committed,

pluripotent skeletal precursor cells that have entered a post natal differentiation pathway leading to skeletal or connective tissues , wherein the marker is an expressed bone morphogenic or cartilage derived morphogenic protein, a homolog thereof or a marker co-expressed and/or co-detectable with this marker.

48. The diagnostic according to claim 47 wherein the diagnostic also identifies the absence of a negative marker.

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49. The diagnostic according to claim 47 wherein the positive marker identifies precursor cells of a joint interzone in mammals

50. The diagnostic according to claim 47 wherein the expressed bone morphogenic or cartilage derived morphogenic protein is the cartilage derived morphogenic protein CDMP-1 or a transforming growth factor beta having at least 80 % homology with CDMP1 as a marker of skeletal precursor cells from any part of the body or a marker or factor co-expressed or co-detectable with any or all of these positive markers.

51. A method to positively identify viable committed skeletal pluripotent precursor cells that have entered a post natal differentiation pathway leading to connective or skeletal tissues, comprising selecting or identifying cells expressing an embryonic marker wherein the embryonic marker is an expressed bone morphogenic or cartilage derived morphogenic protein, a homolog thereof or a marker co-expressed and or co-dectable with this marker.